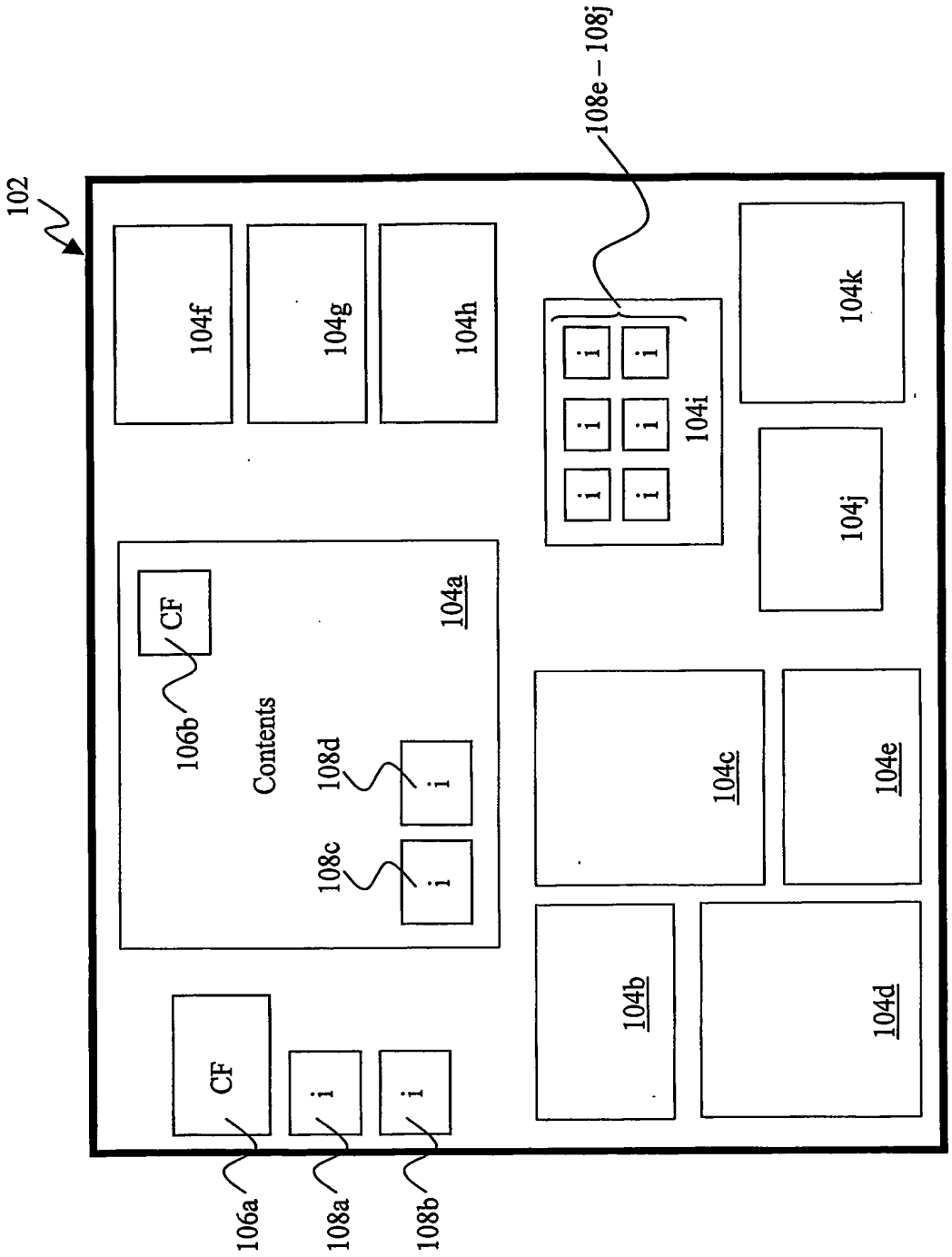

102
108e – 108j
104f
104g
104h
104k
104i
104j
CF
106b
Contents
104a
108d
108c
104c
104e
104b
104d
CF
106a
108a
108b

Figure 1

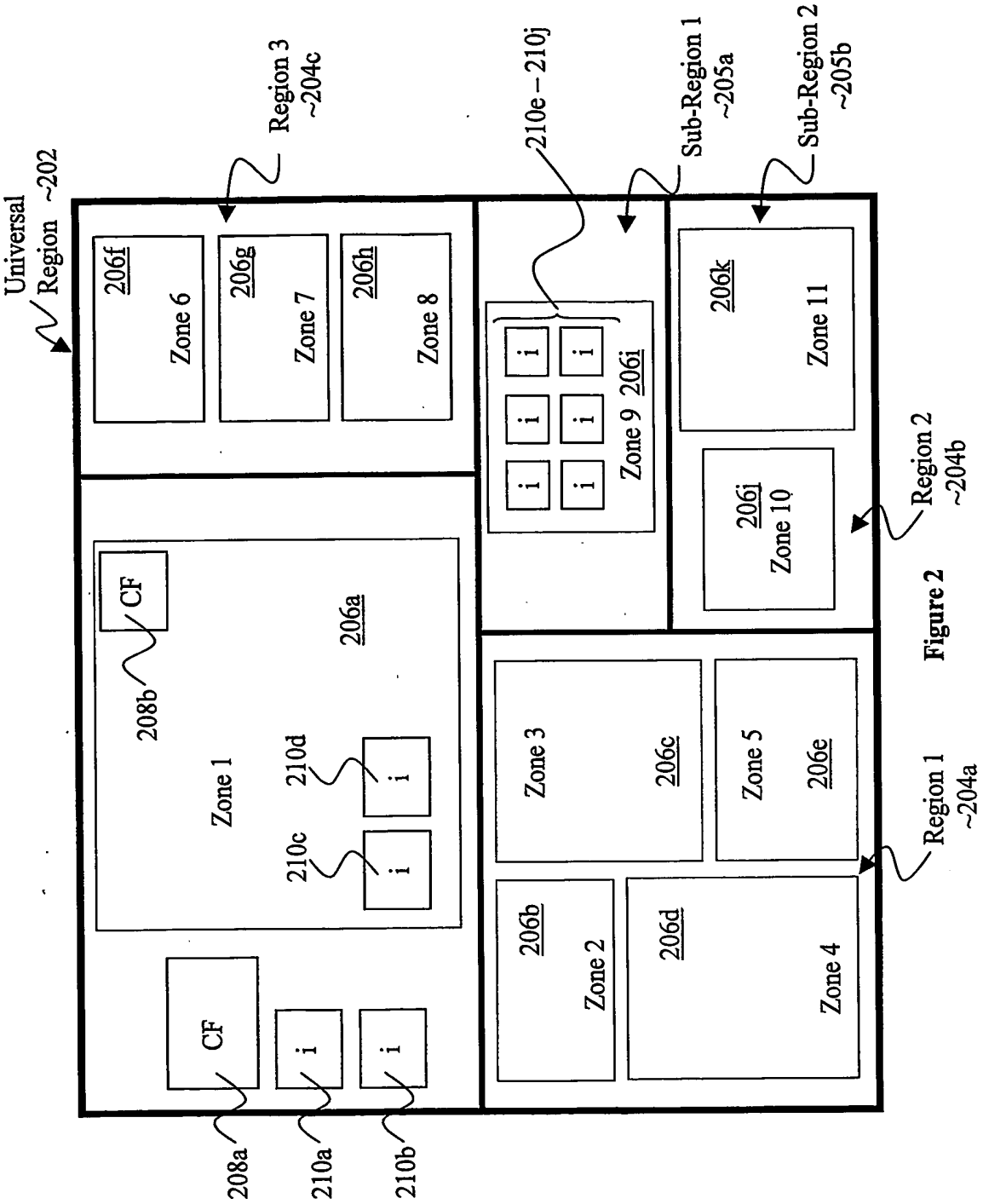

Universal Region ~202
Region 3 ~204c
210e – 210j
Sub-Region 1 ~205a
Sub-Region 2 ~205b
206f Zone 6
206g Zone 7
206h Zone 8
206k Zone 11
Zone 9 206i
206i Zone 10
Region 2 ~204b
CF
208b
206a
Zone 1
210d
210c
Zone 3 206c
Zone 5 206e
206b Zone 2
206d Zone 4
Region 1 ~204a
CF
208a
210a
210b

Figure 2

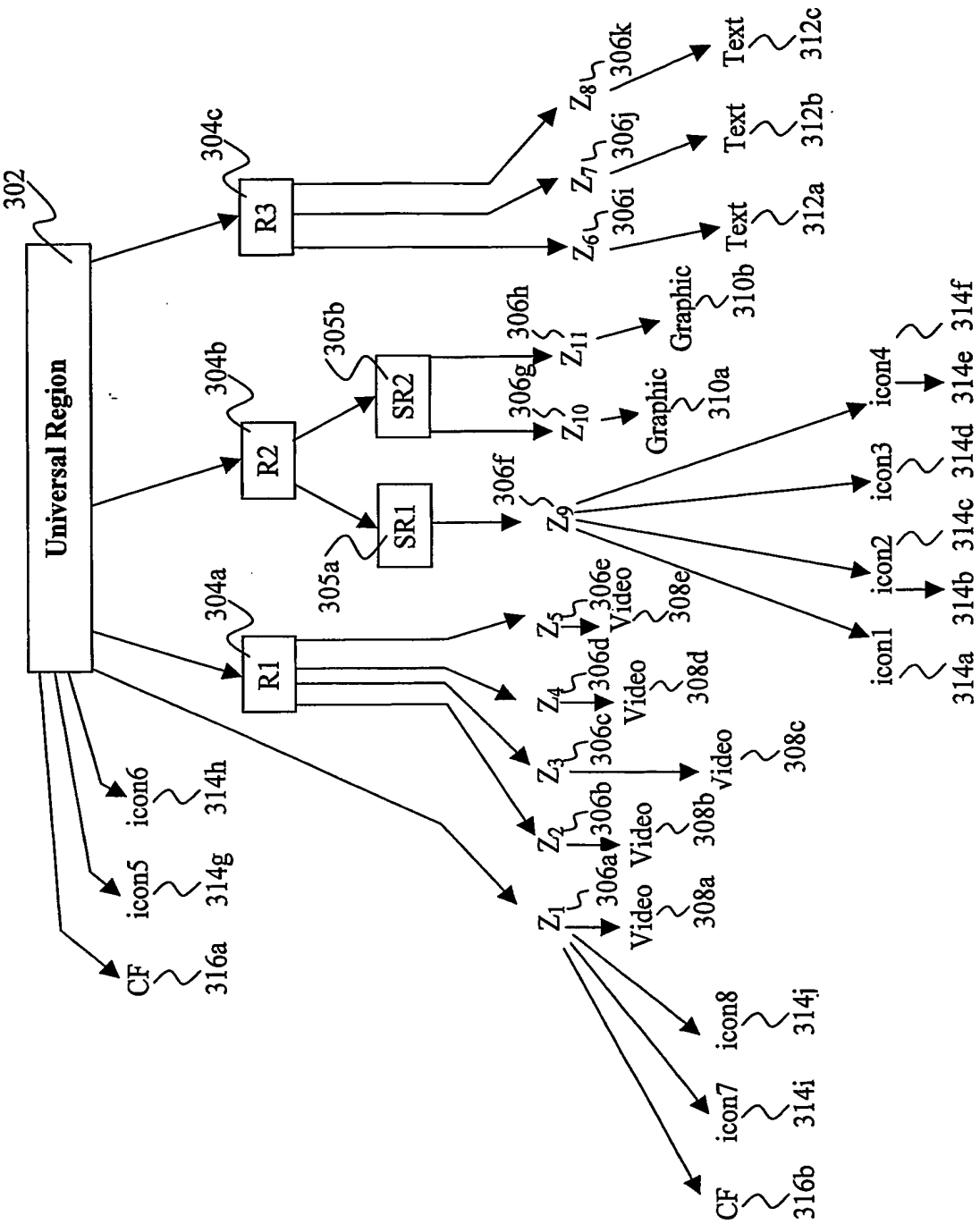
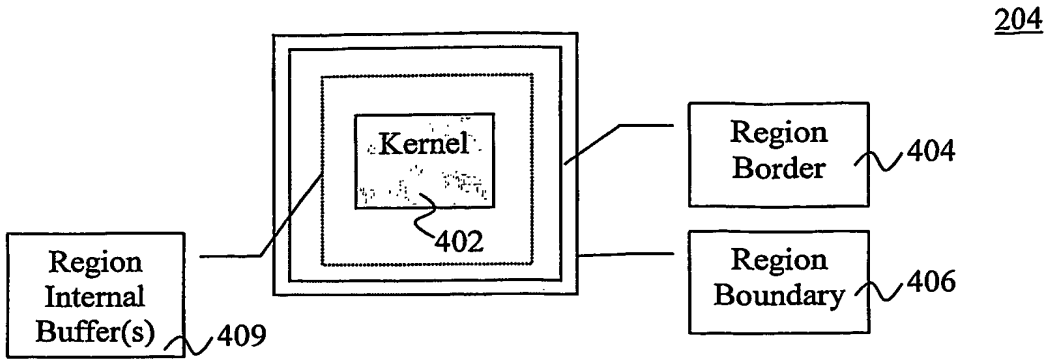
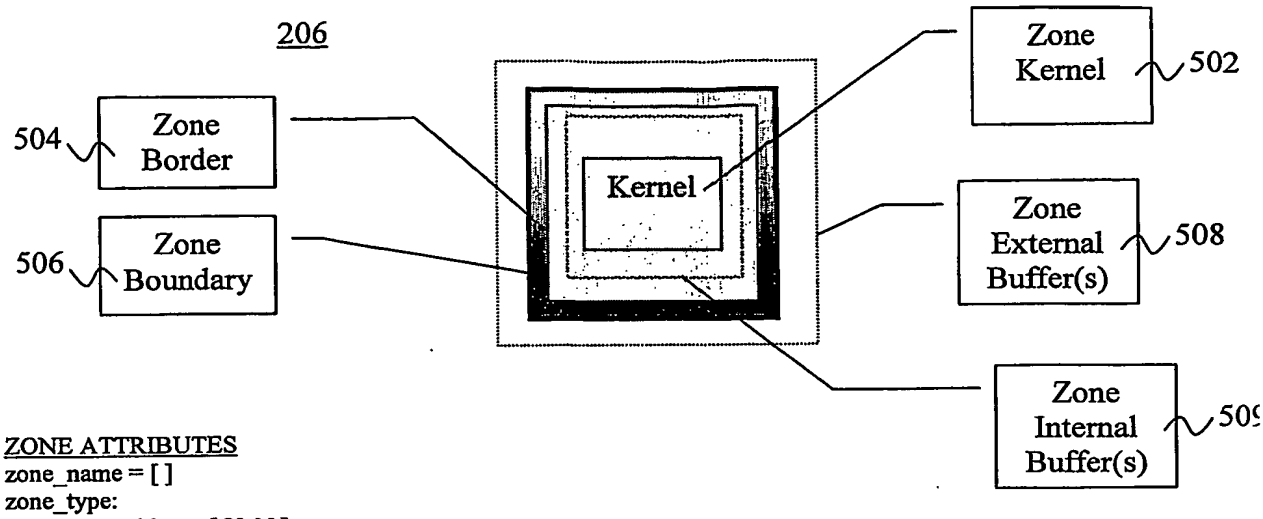

Universal Region
302
R1
304a
R2
304b
R3
304c
SR1
305a
SR2
305b
Z1
Z2
Z3
Z4
Z5
Z6
Z7
Z8
Z9
Z10
Z11
306a
306b
306c
306d
306e
306f
306g
306h
306i
306j
306k
Video
308a
Video
308b
video
308c
Video
308d
Video
308e
Graphic
310a
Graphic
310b
Text
312a
Text
312b
Text
312c
CF
316a
CF
316b
icon1
314a
icon2
314b
icon3
314c
icon4
314d
icon5
314e
icon6
314f
icon7
314g
icon8
314h
314i
314j

Figure 3




REGION ATTRIBUTES
region_name = [ ]
region_adaptive_mode = [auto_expansion_mode, default_size_mode or replace_lowest_priority_zone]
region_type = [ dynamic, fixed ]
region_position = [ movable, stationary ]
region_zone_list = [ zone_names, none ]
region_zone_alignment = [ center, top, bottom, right, left ]
region_base = [ ]
region_height = [ ]
region_center_position = [ x, y ]
region_maximum_size = [ ]
region_background = [ ]
region_border_texture_on = [ Y, N ]
region_texture =[ options ]
region_max_allowable_zones = [ ]
region_kernel_area = [ ]
region_kernel_base = [ ]
region_kernel_height = [ ]
region_border = [ Y, N ]
region_border_thickness = [ ]
region_border_color = [ options ]
region_border_texture_on = [ Y, N ]
region_border_texture = [ options ]
region_border_shading_on = [ Y, N ]
region_border_shading = [ options ]
region_border_blinking = [ Y, N ]
region_border_transparent = [ Y, N]
region_boundary:
region_boundary_thickness = [ ]
region_boundary_color = [ options ]
region_internal_buffer:
region_internal_buffer_height = [ ]
region_internal_buffer_base = [ ]
end_of_region_name

**Figure 4**




ZONE ATTRIBUTES
zone_name = [ ]
zone_type:
zone_type_video = [ Y, N ]
zone_type_data = [ Y, N ]
zone_type_image = [ Y, N ]
zone_type_text = [ Y, N ]
zone_region_association = [ region_name, options ]
zone_priority_level = [ 1, 2, 3 ]
zone_center_position = [ x, y ]
zone_center_position_default = [ region_name, region_center_position ]
zone_overlap = [ Y, N ]
zone_base = [ ]
zone_height = [ ]
zone_upper_left_vertex = [ x, y ]
zone_maximum_size = [ ]
zone_frozen = [ Y, N ]
zone_fixed = [ Y, N ]
zone_position = [ movable, stationary ]
zone_kernel:
zone_kernel_base = [ x ]
zone_kernel_height = [ x ]
zone_border = [ Y, N ]

zone_border_thickness = [ ]
zone_border_color = [ options]
zone_border_texure_on = [ Y, N ]
zone_border_texture = [ options ]
zone_border_shading on = [ Y, N ]
zone_border_shading = [ options ]
zone_border_blinking = [ Y, N ]

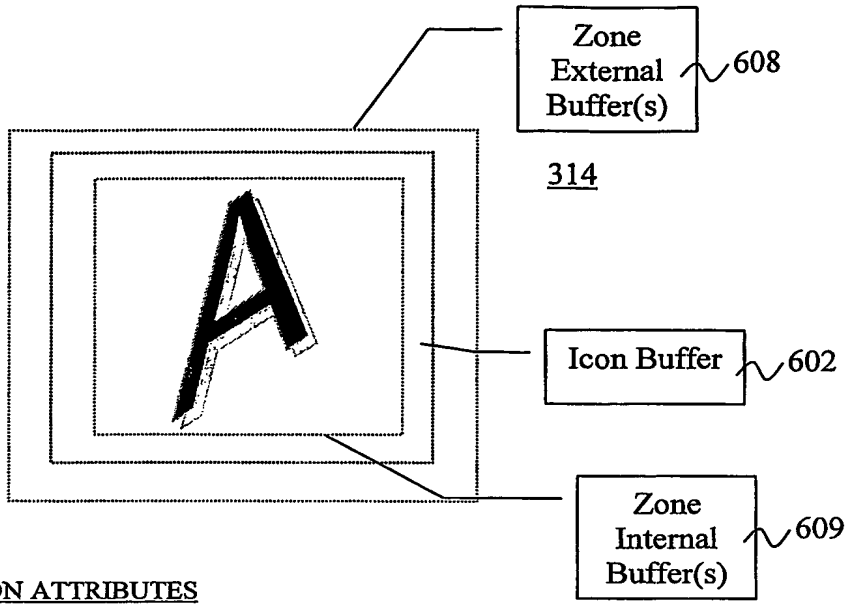
Cont'd at right column

Continued from left column

zone_border_skin = [ list: option_names, null ]
zone_border_data_layer = [ attachable_data_base_name ]
zone_border_data_layer_font_size = [ font_size ]
zone_border_data_layer_font_size_minimum = [font_size ]
zone_border_data_layer_font_size_maximum = [font_size ]
zone_border_data_layer_position = [ top/left, bottom/left ]
zone_border_button_icon = [ button_icon_name ]
zone_border_button_icon = [ top/right, bottom/right ]
zone_boundary:
zone_boundary_thickness = [ ]
zone_boundary_color = [ options ]
zone_external_buffer:
zone_external_buffer_height = [ ]
zone_external_buffer_base = [ ]
zone_internal_buffer:
zone_internal_buffer_height = [ ]
zone_internal_buffer_base = [ ]

end_of_zone_name

**Figure 5**




ICON ATTRIBUTES

image_icon_name = [ ]
image_icon_type = [ none, image_icon_type_name ]
image_icon_name_association = [ zone_name ]
image_icon_center_position = [ x, y ]
image_icon_actual = [ bit_map_name ]
image_icon_buffer_base = [ ]
image_icon_buffer_height = [ ]
image_icon_upper_left_vertex_position = [ x, y ]
image_icon_association = [ region, zone, none, attached, button ]
end_of_image_icon_name

**Figure 6**

UNIVERSAL REGION

- Clear
- Contract
- Expand
- Remove
- Set Attributes

REGION/SUB-REGION

- Same As Universal Region Plus
- Create & Delete

ZONE

- Same As Region Plus
- Move & Place

ICON

- Same As Zone
- Minus Contract & Expand
- Plus Launch

**Figure 7**

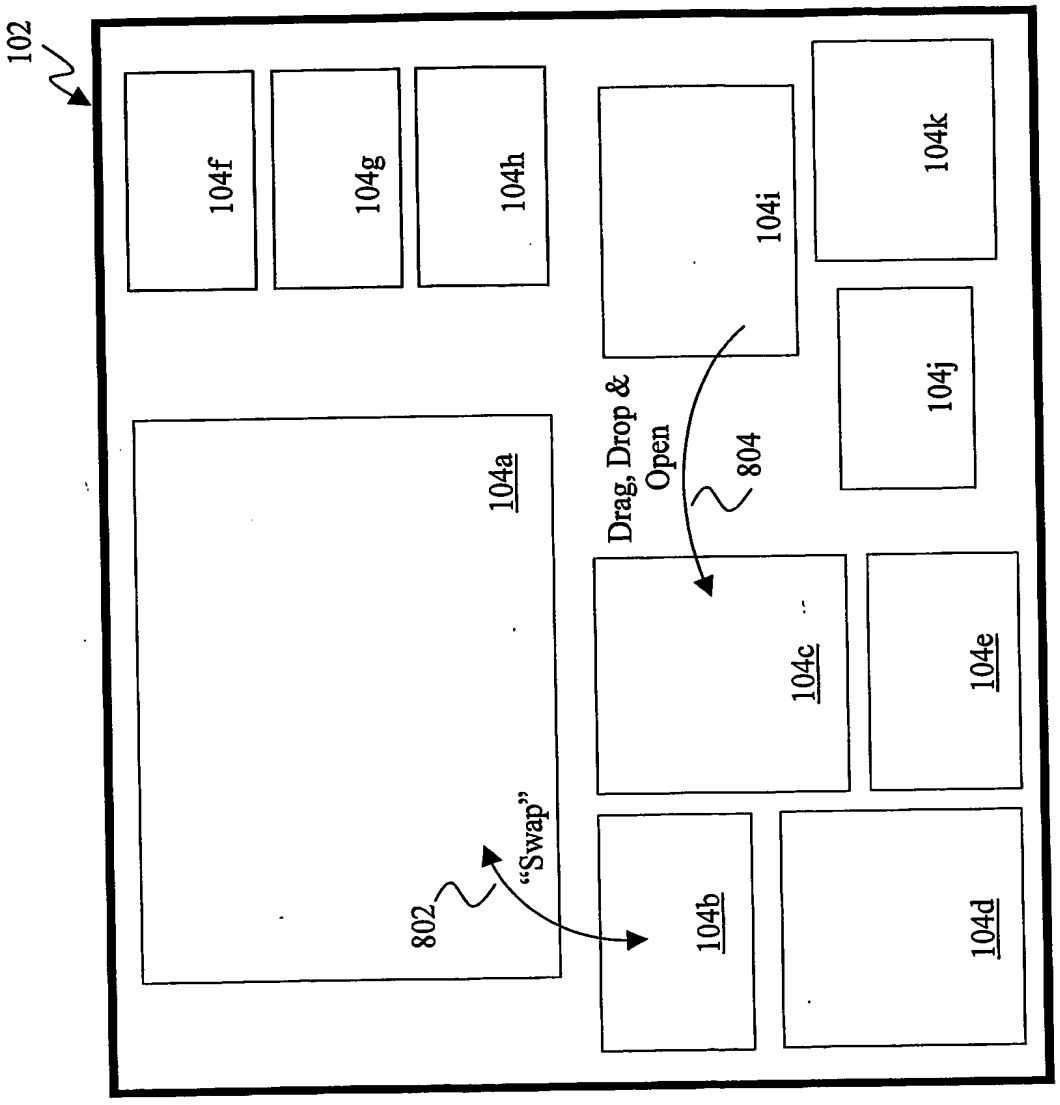

102
104f
104g
104h
104i
104k
104j
104a
Drag, Drop & Open
804
104c
104e
802
"Swap"
104b
104d

Figure 8

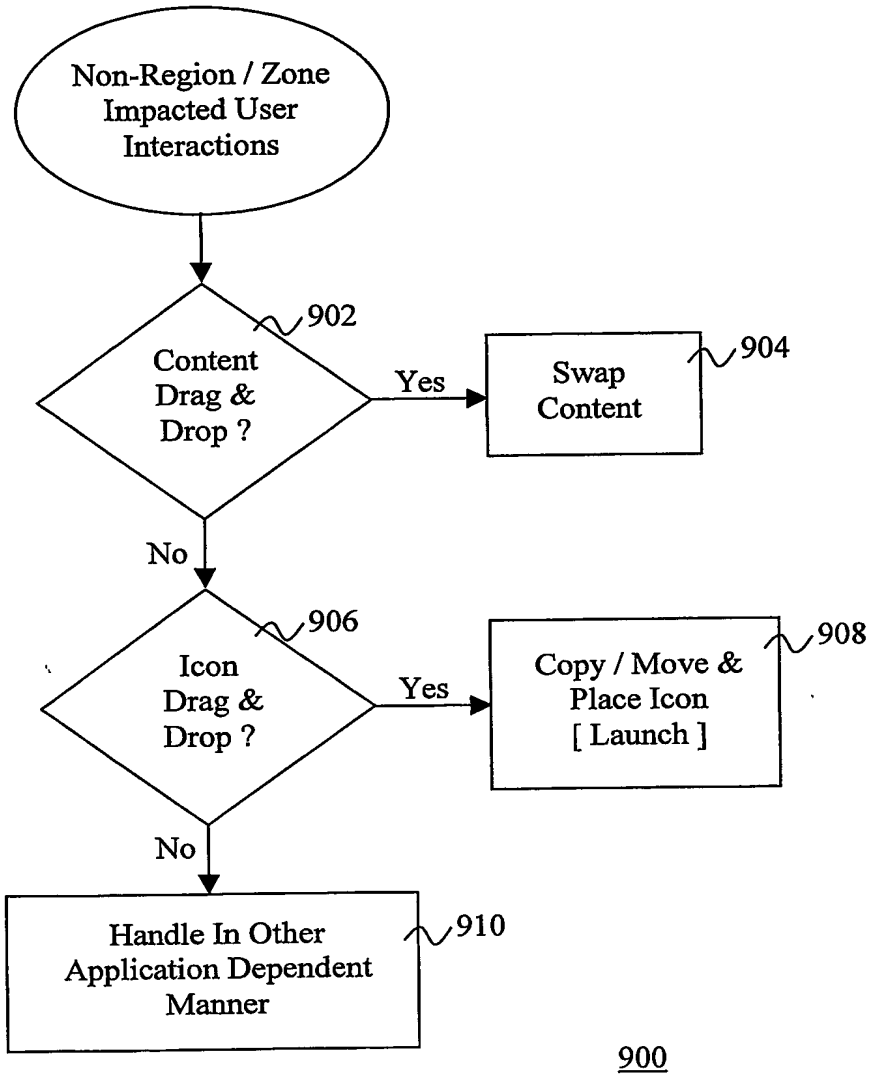

Non-Region / Zone Impacted User Interactions
902
Content Drag & Drop ?
Yes
904
Swap Content
No
906
Icon Drag & Drop ?
Yes
908
Copy / Move & Place Icon [ Launch ]
No
Handle In Other Application Dependent Manner
910
900

**Figure 9**

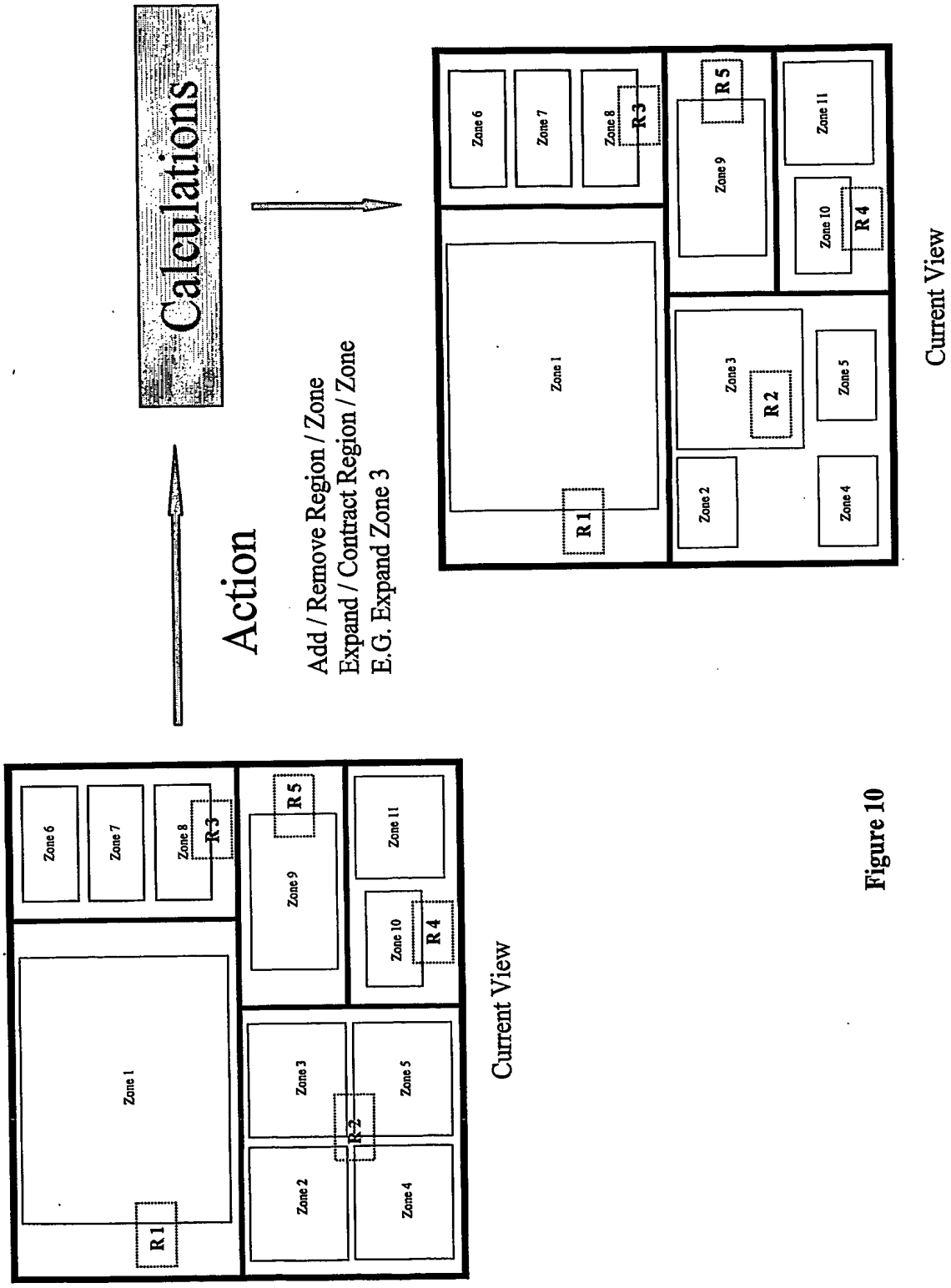

Calculations
Action
Add / Remove Region / Zone
Expand / Contract Region / Zone
E.G. Expand Zone 3
Zone 1
Zone 2
Zone 3
Zone 4
Zone 5
Zone 6
Zone 7
Zone 8
Zone 9
Zone 10
Zone 11
R1
R2
R3
R4
R5
Current View
Current View

Figure 10

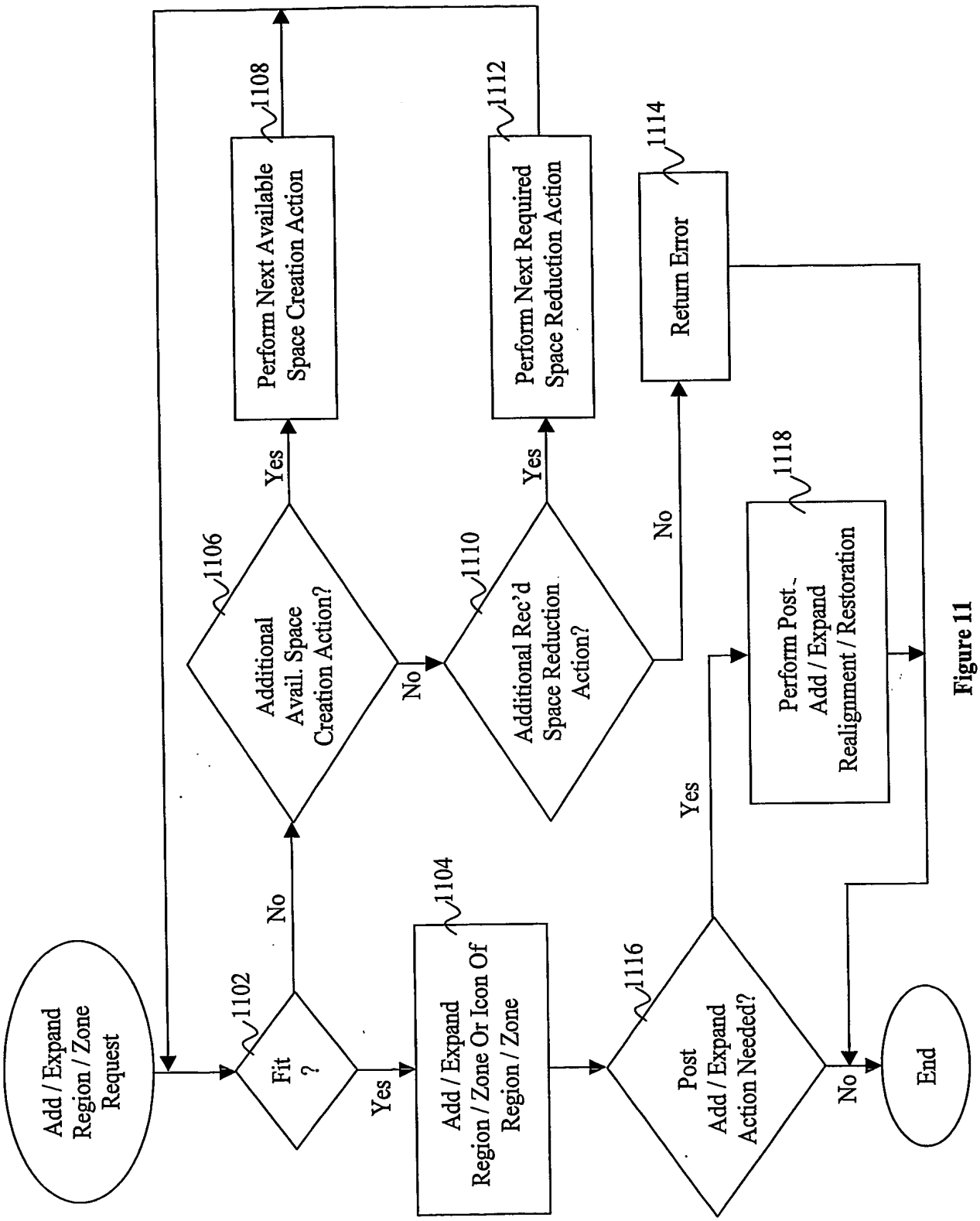

Add / Expand Region / Zone Request
1102
Fit ?
No
Yes
1104
Add / Expand Region / Zone Or Icon Of Region / Zone
1106
Additional Avail. Space Creation Action?
Yes
1108
Perform Next Available Space Creation Action
No
1110
Additional Rec'd Space Reduction Action?
Yes
1112
Perform Next Required Space Reduction Action
No
1114
Return Error
1116
Post Add / Expand Action Needed?
Yes
1118
Perform Post-Add / Expand Realignment / Restoration
No
End

Figure 11

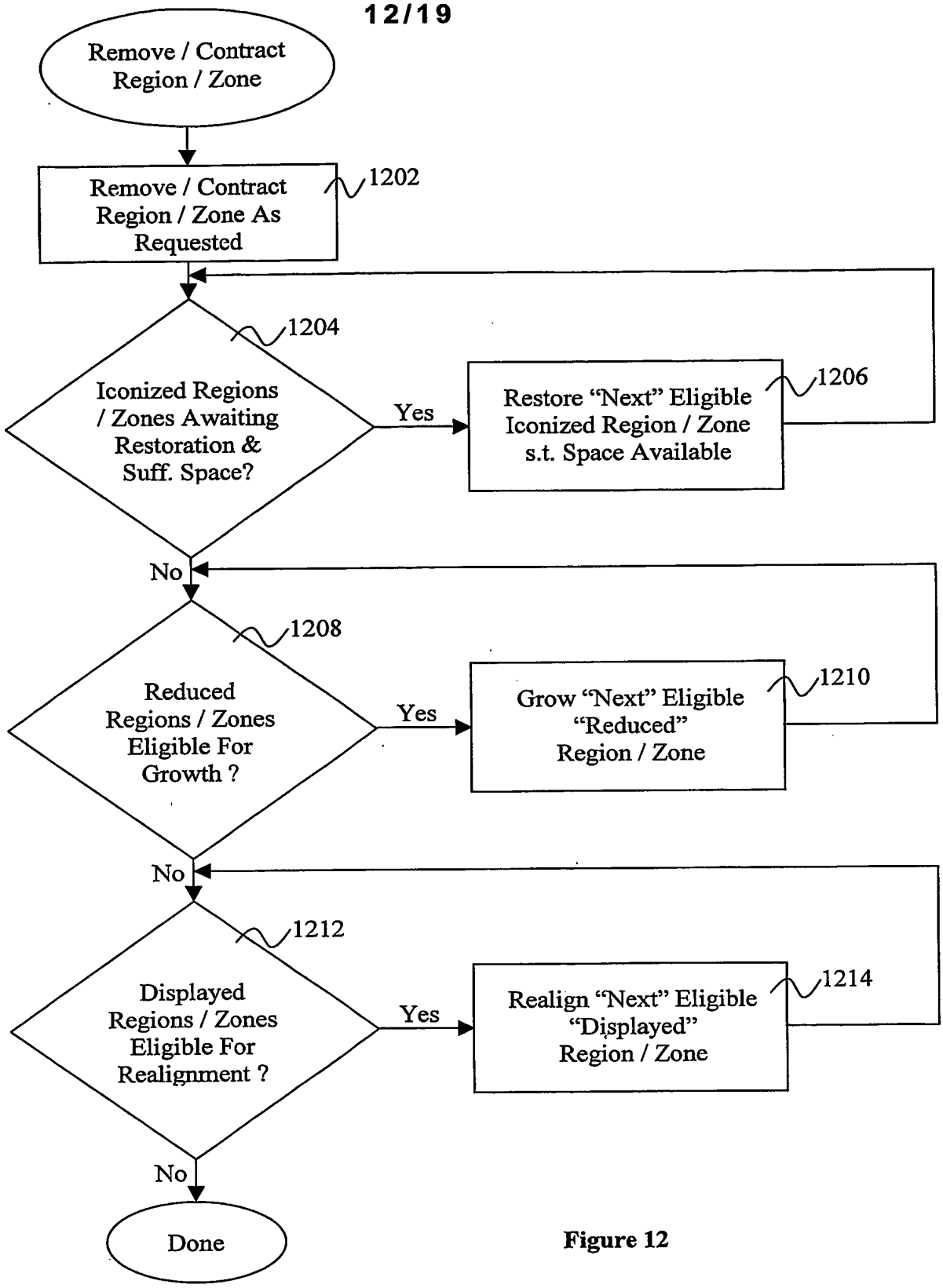

Remove / Contract Region / Zone
Remove / Contract Region / Zone As Requested
1202
1204
Iconized Regions / Zones Awaiting Restoration & Suff. Space?
Yes
Restore "Next" Eligible Iconized Region / Zone s.t. Space Available
1206
No
1208
Reduced Regions / Zones Eligible For Growth ?
Yes
Grow "Next" Eligible "Reduced" Region / Zone
1210
No
1212
Displayed Regions / Zones Eligible For Realignment ?
Yes
Realign "Next" Eligible "Displayed" Region / Zone
1214
No
Done

**Figure 12**

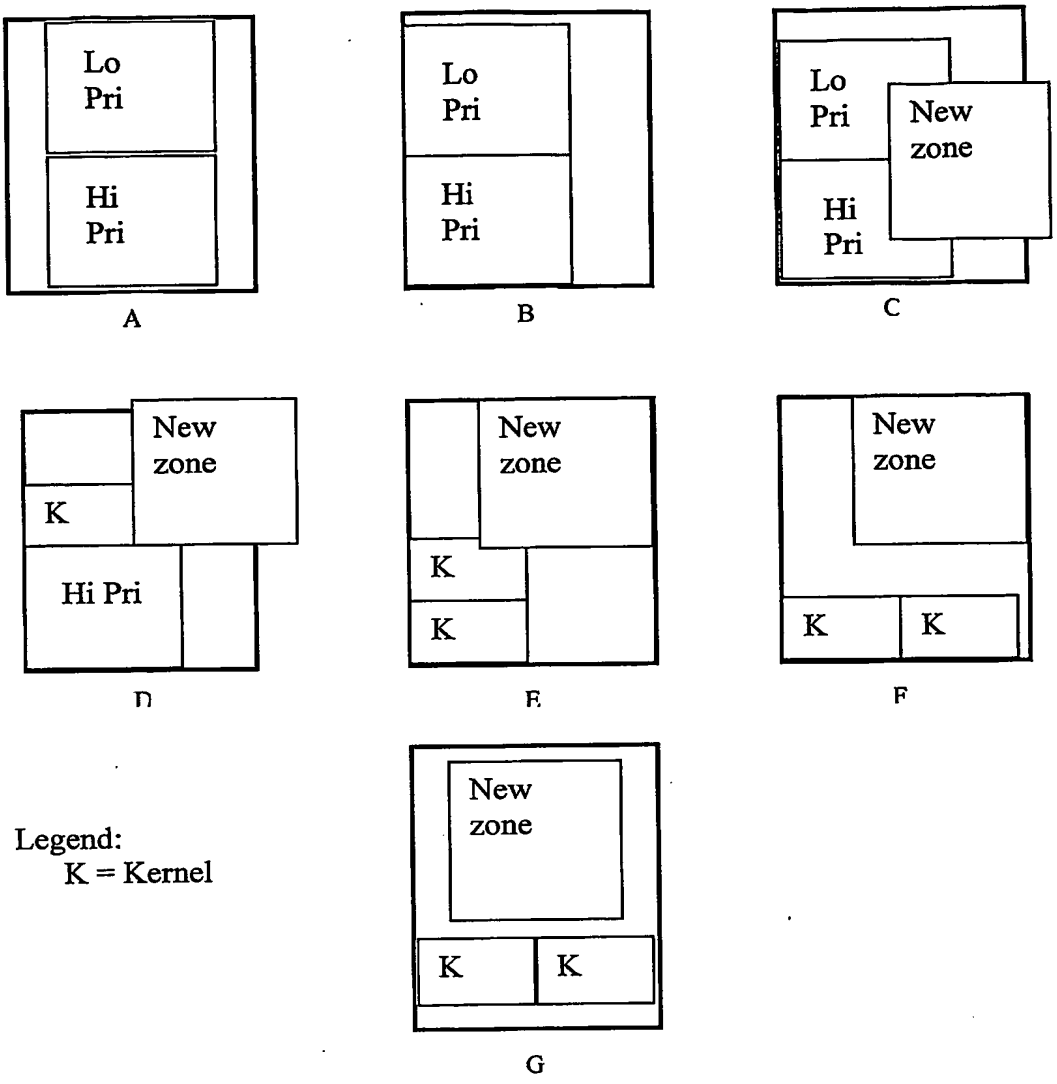

Lo Pri
Hi Pri
A
Lo Pri
Hi Pri
B
Lo Pri
New zone
Hi Pri
C
New zone
K
Hi Pri
D
New zone
K
K
E
New zone
K
K
F
New zone
K
K
G
Legend:
K = Kernel

**Figure 13**

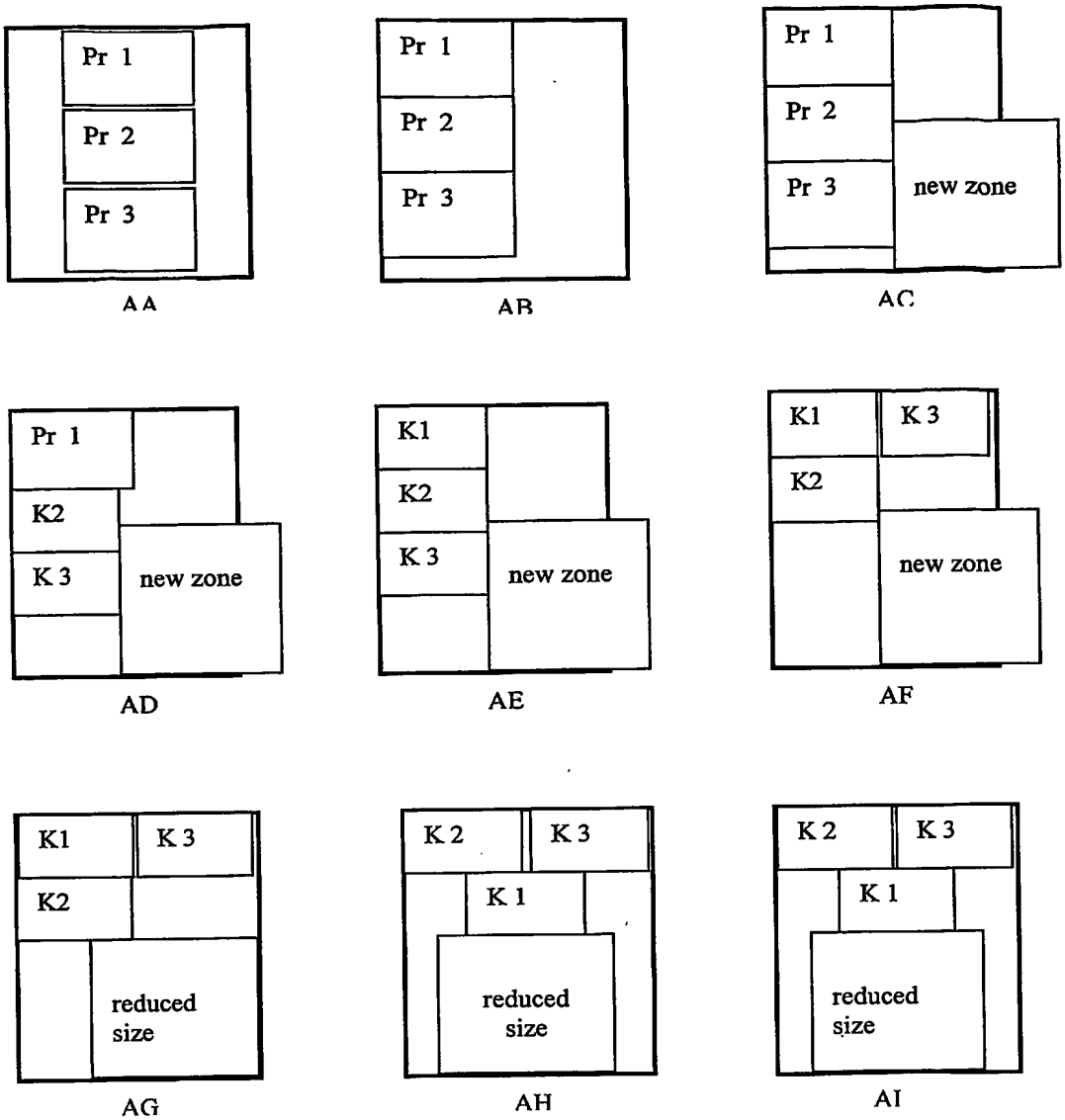

Pr 1
Pr 2
Pr 3
AA
Pr 1
Pr 2
Pr 3
AB
Pr 1
Pr 2
Pr 3
new zone
AC
Pr 1
K2
K 3
new zone
AD
K1
K2
K 3
new zone
AE
K1
K 3
K2
new zone
AF
K1
K 3
K2
reduced size
AG
K 2
K 3
K 1
reduced size
AH
K 2
K 3
K 1
reduced size
AI

**Figure 14**

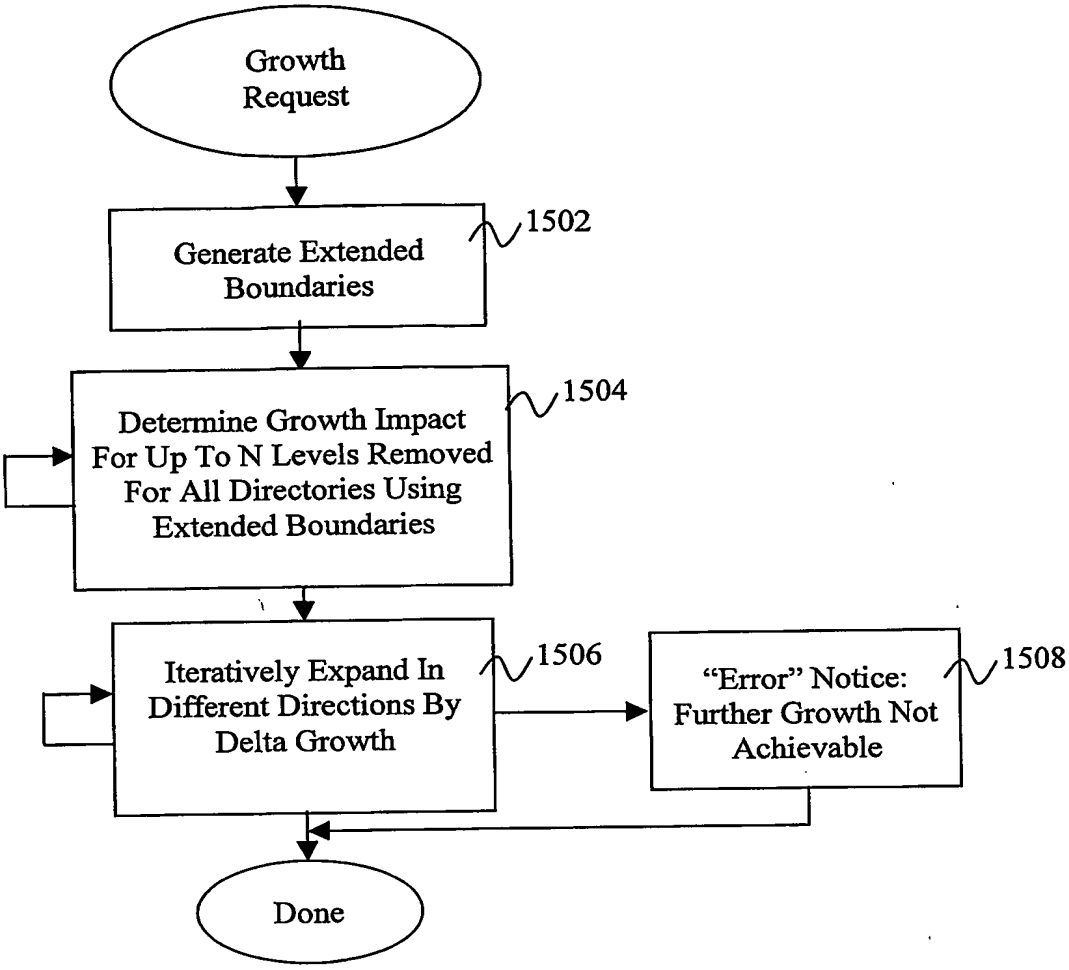

Growth Request
Generate Extended Boundaries
1502
Determine Growth Impact For Up To N Levels Removed For All Directories Using Extended Boundaries
1504
Iteratively Expand In Different Directions By Delta Growth
1506
"Error" Notice: Further Growth Not Achievable
1508
Done

**Figure 15**

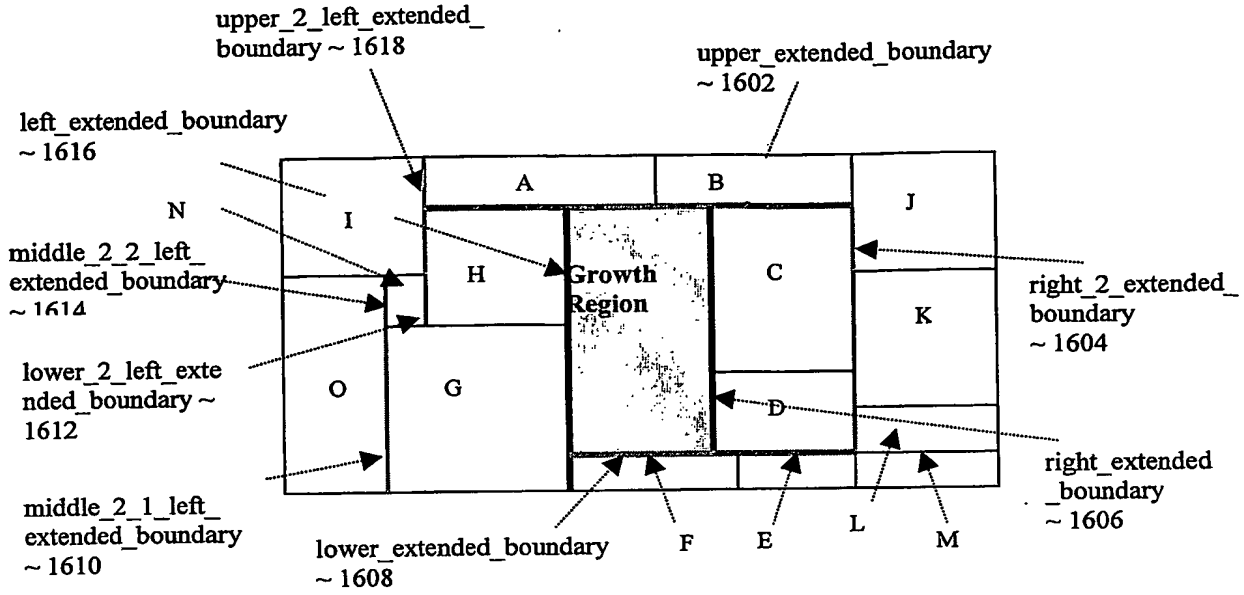

upper_2_left_extended_ boundary ~ 1618
upper_extended_boundary ~ 1602
left_extended_boundary ~ 1616
N
middle_2_2_left_ extended_boundary ~ 1614
lower_2_left_exte nded_boundary ~ 1612
middle_2_1_left_ extended_boundary ~ 1610
lower_extended_boundary ~ 1608
right_2_extended_ boundary ~ 1604
right_extended _boundary ~ 1606
A
B
J
I
H
Growth Region
C
K
O
G
D
F
E
L
M

**Figure 16**

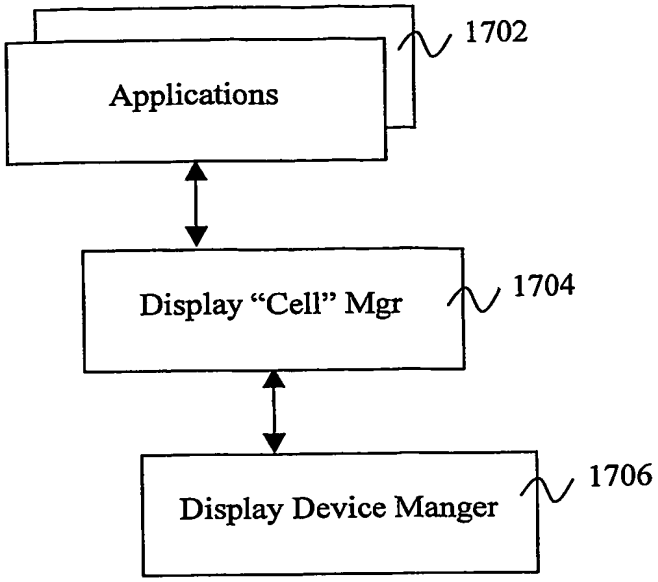



**Figure 17a**

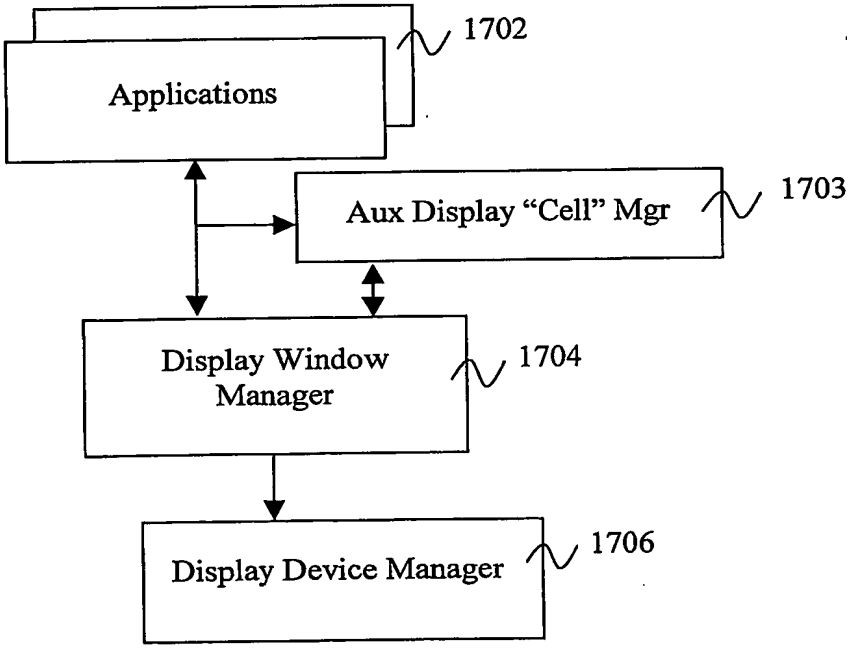



**Figure 17b**

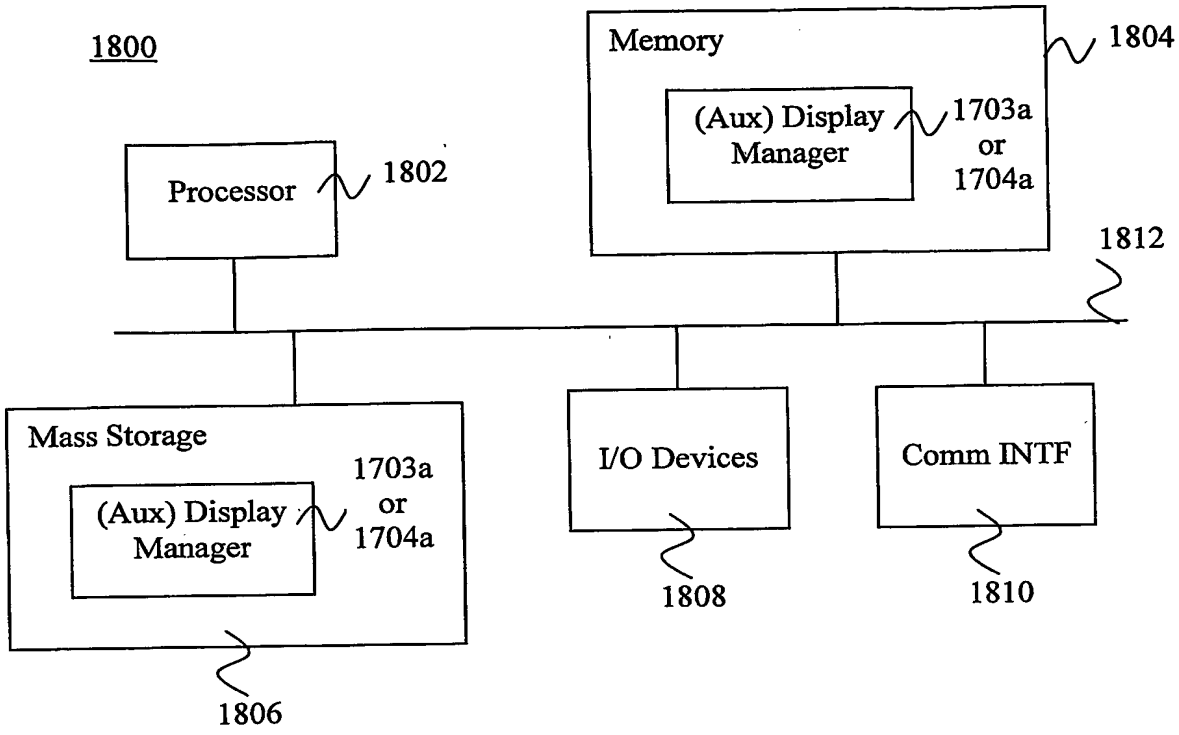

1800
Memory
1804
(Aux) Display Manager
1703a or 1704a
Processor
1802
1812
Mass Storage
1703a or 1704a
(Aux) Display Manager
I/O Devices
Comm INTF
1808
1810
1806

**Figure 18**

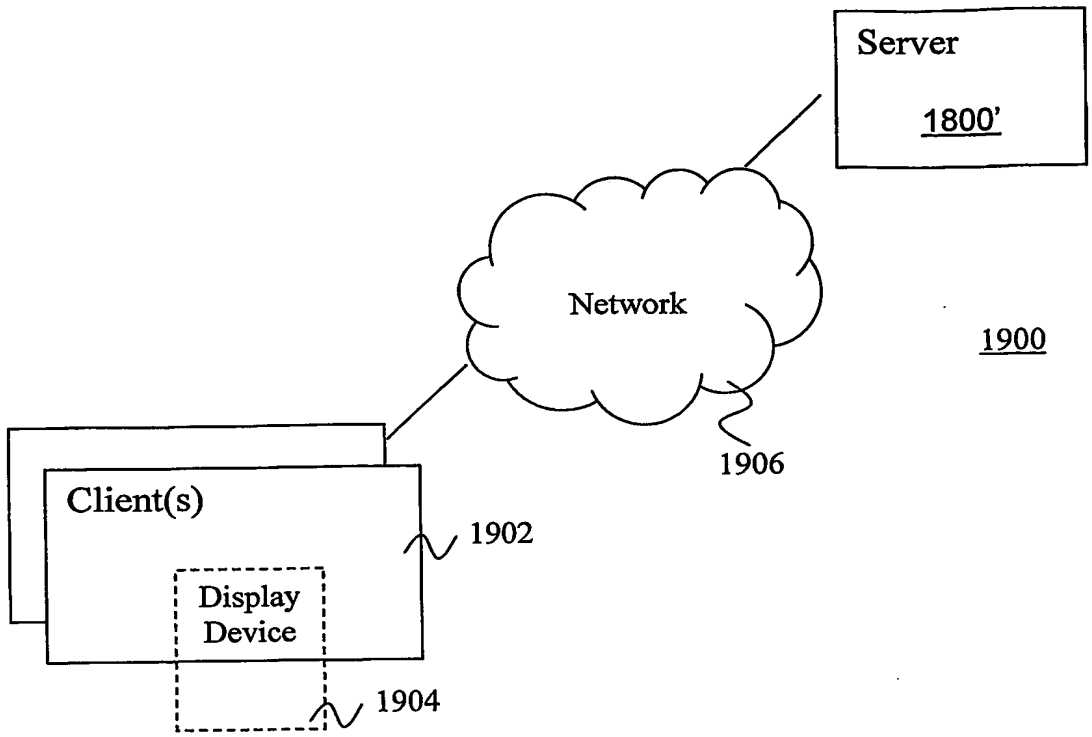

Server
1800'
Network
1900
1906
Client(s)
1902
Display
Device
1904

**Figure 19**